

Listing of Claims

1-4. (Canceled)

5. (Currently Amended) A driving apparatus for a plasma display panel in which one frame period is time-divided into a plurality of sub-fields each given by a certain weighting value, said driving apparatus comprising:

a gray level detector for detecting a gray level distribution of a data; and
an adjuster for adjusting at least one of the number of sustaining pulses or and a sub-field arrangement in accordance with a gray level distribution of said data.

6. (Original) The driving apparatus as claimed in claim 5, wherein said adjuster adjusts both the number of sustaining pulses and a sub-field arrangement in accordance with the gray level distribution of said data.

7. (Original) The driving apparatus as claimed in claim 5, wherein said adjuster reduces the number of sustaining pulses when gray levels of said data concentrate on a low gray level.

8. (Original) The driving apparatus as claimed in claim 5, wherein said adjuster increases the number of sustaining pulses when gray levels of said data concentrate on a high gray level.

9-13 (Canceled)

14. (Currently Amended) A method of driving a plasma display panel in which one frame period is time-divided into a plurality of sub-fields each given by a certain weighting value, said method comprising the steps of:

detecting a gray level distribution of a data; and
adjusting at least one of the number of sustaining pulses or and a sub-field arrangement in accordance with a gray level distribution of said data.

15. (Original) The method as claimed in claim 14, wherein said step of adjusting said at least one of the number of sustaining pulses and said sub-field arrangement adjusts both the number of sustaining pulses and a sub-field arrangement in accordance with the gray level distribution of said data.

16. (Original) The driving apparatus as claimed in claim 14, wherein said step of adjusting said at least one of the number of sustaining pulses and said sub-field arrangement reduces the number of sustaining pulses when gray levels of said data concentrate on a low gray level.

17. (Original) The driving apparatus as claimed in claim 14, wherein said step of adjusting said at least one of the number of sustaining pulses and said sub-field arrangement increases the number of sustaining pulses when gray levels of said data concentrate on a high gray level.

18. (Canceled)

19. (New) The driving apparatus of claim 5, further comprising:
an average picture level controller which detects an average brightness of said data and outputs information to set a number of sustaining pulses in each of a predetermined number of sub-fields corresponding to said data,

20. (New) The driving apparatus of claim 19, wherein the average picture level detector detects the average brightness of said data as received from an inverse gamma controller.

21. (New) The driving apparatus of claim 5, wherein the number of the sub-fields after said adjustment equals the number of sub-fields before said adjustment for driving the panel.

22. (New) The driving apparatus of claim 5, wherein the weighting value assigned to each of the predetermined number of sub-fields is same before and after said adjustment.

23. (New) The driving apparatus of claim 5, wherein the adjuster generates a histogram of gray-level values corresponding to the gray-level distribution of said data, the adjuster performing said adjustment based on the histogram.
24. (New) The driving apparatus of claim 5, wherein the detector divides the gray-level distribution into a plurality of predetermined regions, and wherein the adjuster compares the gray-level distribution in the regions and adjusts the number of sustaining pulses in one or more of the predetermined sub-fields based on the comparison.
25. (New) The driving apparatus of claim 24, wherein the adjuster performs said comparison to determine a region having largest gray-level distribution and adjusts the number of sustaining pulses in one or more of the sub-fields to produce a corresponding change in brightness of the displayed image.
26. (New) The driving apparatus of claim 25, wherein the adjuster decreases the number of sustaining pulses to less than a predetermined references value when the largest gray-level distribution is located in a region corresponding to a low range of gray levels.

27. (New) The driving apparatus of claim 25, wherein the adjuster increases the number of sustaining pulses to more than the predetermined reference value when the largest gray-level distribution is located in a region corresponding to a high range of gray levels.
28. (New) The driving apparatus of claim 5, wherein the adjuster includes:
 - a sub-field arrangement selector which selects one of a plurality of pre-stored sub-field arrangements based on the gray-level distribution of said data.
29. (New) The driving apparatus of claim 28, wherein the sub-field arrangements are predetermined to reduce contour noise for different regions having a largest portion of the gray-level distribution.
30. (New) The driving apparatus of claim 29, wherein:
 - in a first arrangement, the number of sustaining pulses in the sub-fields changes in ascending order,
 - in a second arrangement, the number of sustaining pulses in a first portion of the sub-fields changes in ascending order, the number of sustaining pulses in a second portion of the sub-fields includes a maximum number of sustaining pulses, and the number of sustaining pulses in a third portion of the sub-fields changes in descending order; and

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in a third arrangement, the number of sustaining pulses in a first portion of the sub-fields changes in ascending order and the number of sustaining pulses in a second portion of the sub-fields are set to a same number of sustaining pulses.